

## CMPSCI 120 Homework 9

This homework is due **in hard copy or via email**, at the beginning of class on Thursday, December 13. If you turn this homework in in paper format, all you need to supply is your name and the URL of the webpage you created for this assignment. If you want to turn it in via email, send an email to the TA with your full name and the URL of your webpage that you created for this homework. The subject line **must** be

CMPSCI 120 Homework 9 URL

There will be no excuses accepted of the form, “I sent the email, didn’t you get it?” If you are worried about that, turn the URL in on paper.

Create a webpage called `hw9.html` in your `public_html` directory. Add the four essential tags. Have the title of the webpage (in the `<title>` tag) be “CMPSCI 120 Homework 9.”

You will be adding a number of JavaScript scripts to this webpage, one script for each problem. Each script should be separate from the others. **Look on the class website for a sample template on how the page should be structured.** Essentially, just write a separate script for each problem and precede each script with a level 1 heading with “Problem *X*” (*X* is the number of the problem).

1. Write a JavaScript script that converts a user-supplied temperature from degrees Fahrenheit to degrees Celsius. Here’s one way to do it:

Declare two variables, one to store the temperature in degrees Fahrenheit, and one to store it in degrees Celsius. Prompt the user for a temperature in degrees Fahrenheit (use a `prompt()` box). Whatever the user types should be saved in the degrees Fahrenheit variable. Convert the temperature to degrees Celsius using the formula below and save that value to the other variable you created. Write (to the web browser window) a message containing the value in the Celsius variable.

The formula to convert from degrees Fahrenheit to degrees Celsius is:

$$C = \frac{F - 32}{1.8}$$

where *F* and *C* are degrees Fahrenheit and Celsius, respectively.

2. Write a JavaScript script to calculate and display student’s final (numeric) grade for this class given their exam average, homework average, and final project grade, which they should be prompted for on the page. If their final numeric grade is at or above 60%, tell the user they passed the class; if not, tell them they failed the class. (Recall that exams are worth 35%, homework 40%, and the final project 25%.) Here’s one way to do it:

Declare three variables, one each for the exam average, homework average, and project grade. Prompt the user to type in each value as a percentage (but without a percent sign, so if their homework average was 95% they would just type in 95). Calculate the final grade from these three values and display it to the user. Print one message if their grade is 60 or higher, and a different message otherwise.

**Remember, your final project is due on the last day of classes.**